

Problem Sleepiness

WHAT IS PROBLEM SLEEPINESS?

Everyone feels sleepy at times. However, when sleepiness interferes with daily routines and activities, or reduces the ability to function, it is called "problem sleepiness."

A person can be sleepy without realizing it. For example, a person may not feel sleepy during activities such as talking and listening to music at a party, but the same person can fall asleep while driving home afterward.

You may have problem sleepiness if you:

- consistently do not get enough sleep, or get poor quality sleep;
- fall asleep while driving;
- struggle to stay awake when inactive, such as when watching television or reading;
- have difficulty paying attention or concentrating at work, school, or home;
- have performance problems at work or school;
- are often told by others that you are sleepy;
- have difficulty remembering;
- have slowed responses;
- have difficulty controlling your emotions; or
- must take naps on most days.

WHAT CAUSES PROBLEM SLEEPINESS?

Sleepiness can be due to the body's natural daily sleep-wake cycles, inadequate sleep, sleep disorders, or certain drugs.

Sleep-Wake Cycle

Each day there are two periods when the body experiences a natural tendency toward sleepiness: during the late night hours (generally between midnight and 7 a.m.) and again during the midafternoon (generally between 1 p.m. and 4 p.m.). If people are awake during these times, they have a higher risk of falling asleep unintentionally, especially if they haven't been getting enough sleep.

Inadequate Sleep

The amount of sleep needed each night varies among people. Each person needs a particular amount of sleep in order to be fully alert throughout the day. Research has shown that when healthy adults are allowed to sleep unrestricted, the average time slept is 8 to 8.5 hours. Some people need more than that to avoid problem sleepiness; others need less.

If a person does not get enough sleep, even on one night, a "sleep debt" begins to build and increases until enough sleep is

obtained. Problem sleepiness occurs as the debt accumulates. Many people do not get enough sleep during the work week and then sleep longer on the weekends or days off to reduce their sleep debt. If too much sleep has been lost, sleeping in on the weekend may not completely reverse the effects of not getting enough sleep during the week.

Sleep Disorders

Sleep disorders such as sleep apnea, narcolepsy, restless legs syndrome, and insomnia can cause problem sleepiness. *Sleep apnea* is a serious disorder in which a person's breathing is interrupted during sleep, causing the individual to awaken many times during the night and experience problem sleepiness during the day. People with *narcolepsy* have excessive sleepiness during the day, even after sleeping enough at night. They may fall asleep at inappropriate times and places. *Restless legs syndrome (RLS)* causes a person to experience unpleasant sensations in the legs, often described as creeping, crawling, pulling, or painful. These sensations frequently occur in the evening, making it difficult for people with RLS to fall asleep, leading to problem sleepiness during the day. *Insomnia* is the perception of poor-quality sleep due to difficulty falling asleep, waking up during the night with difficulty returning to sleep, waking up too early in the morning, or unrefreshing sleep. Any of these sleep disorders can cause problem sleepiness. See page 4 for information on how to order fact sheets about the above sleep disorders.

Medical Conditions/Drugs

Certain medical conditions and drugs, including prescription medications, can also disrupt sleep and cause problem sleepiness. Examples include:

- **Chronic illnesses such as asthma, congestive heart failure, rheumatoid arthritis, or any other chronically painful disorder;**
- **Some medications to treat high blood pressure, some heart medications, and asthma medications such as theophylline;**
- **Alcohol—Although some people use alcohol to help themselves fall asleep, it causes sleep disruption during the night, which can lead to problem sleepiness during the day. Alcohol is also a sedating drug that can, even in small amounts, make a sleepy person much more sleepy and at greater risk for car crashes and performance problems;**
- **Caffeine—Whether consumed in coffee, tea, soft drinks, or medications, caffeine makes it harder for many people to fall asleep and stay asleep. Caffeine stays in the body for about 3 to 7 hours, so even when taken earlier in the day it can cause problems with sleep at night; and**
- **Nicotine from cigarettes or a skin patch is a stimulant and makes it harder to fall asleep and stay asleep.**

PROBLEM SLEEPINESS AND ADOLESCENTS

Many U.S. high school and college students have signs of problem sleepiness, such as:

- **difficulty getting up for school;**
- **falling asleep at school; and/or**
- **struggling to stay awake while doing homework.**

The need for sleep may be 9 hours or more per night as a person goes through adolescence. At the same time, many teens begin to show a preference for a later bed time, which may be due to a biological change. Teens tend to stay up later but have to get up early for school, resulting in their getting much less sleep than they need.

Many factors contribute to problem sleepiness in teens and young adults, but the main causes are not getting enough sleep and irregular sleep schedules. Some of the factors that influence adolescent sleep include:

- **social activities with peers that lead to later bedtimes;**
- **homework to be done in the evenings;**
- **early wake-up times due to early school start times;**
- **parents being less involved in setting and enforcing bedtimes; and**
- **employment, sports, or other extracurricular activities that decrease the time available for sleep.**

Teens and young adults who do not get enough sleep are at risk for problems such as:

- automobile crashes;
- poor performance in school and poor grades;
- depressed moods; and
- problems with peer and adult relationships.

Many adolescents have part-time jobs in addition to their classes and other activities. High school students who work more than 20 hours per week have more problem sleepiness and may use more caffeine, nicotine, and alcohol than those who work less than 20 hours per week or not at all.

SHIFT WORK AND PROBLEM SLEEPINESS

About 20 million Americans (20 to 25 percent of workers) perform shift work. Most shift workers get less sleep over 24 hours than day workers. Sleep loss is greatest for night shift workers, those who work early morning shifts, and female shift workers with children at home. About 60 to 70 percent of shift workers have difficulty sleeping and/or problem sleepiness.

The human sleep-wake system is designed to prepare the body and mind for sleep at night and wakefulness during the day. These natural rhythms make it difficult to sleep during daylight hours and to stay awake during the night hours, even in people who are well rested. It is possible that the human body never

completely adjusts to nighttime activity and daytime sleep, even in those who work permanent night shifts.

In addition to the sleep-wake system, environmental factors can influence sleepiness in shift workers. Because our society is strongly day-oriented, shift workers who try to sleep during the day are often interrupted by noise, light, telephones, family members, and other distractions. In contrast, the nighttime sleep of day workers is largely protected by social customs that keep noises and interruptions to a minimum.

Problem sleepiness in shift workers may result in:

- increased risk for automobile crashes, especially while driving home after the night shift;
- decreased quality of life;
- decreased productivity (night work performance may be slower and less accurate than day performance); and/or
- increased risk of accidents and injuries at work.

WHAT CAN HELP?

Sleep—There Is No Substitute!

Many people simply do not allow enough time for sleep on a regular basis. A first step may be to evaluate daily activities and sleep-wake patterns to determine how much sleep is obtained. If you are consistently getting less than 8 hours of sleep per night, more sleep may be needed. A good approach is to gradually move to an earlier bed-



time. For example, if an extra hour of sleep is needed, try going to bed 15 minutes earlier each night for four nights and then keep the last bedtime. This method will increase the amount of time in bed without causing a sudden change in schedule. However, if work or family schedules do not permit the earlier bedtime, a 30- to 60-minute daily nap may help.

Medications/Drugs

In general, medications do not help problem sleepiness, and some make it worse. *Caffeine* can reduce sleepiness and increase alertness, but only temporarily. It can also cause problem sleepiness to become worse by interrupting sleep.

While *alcohol* may shorten the time it takes to fall asleep, it can disrupt sleep later in the night, and therefore add to the problem sleepiness.

Medications may be prescribed for patients in certain situations. For example, the short-term use of sleeping pills has been shown to be helpful in patients diagnosed with acute insomnia. Long-term use of sleep medication is recommended only for the treatment of specific sleep disorders.

If You're Sleepy—Don't Drive!

A person who is sleepy and drives is at high risk for an automobile crash. Planning ahead may help reduce that risk. For example, the following tips may help when planning a long distance car trip:

- Get a good night's sleep before leaving.
- Avoid driving between midnight and 7 a.m.
- Change drivers often to allow for rest periods.
- Schedule frequent breaks.

If you are a shift worker, the following may help:

- decreasing the amount of night work;
- increasing the total amount of sleep by adding naps and lengthening the amount of time allotted for sleep;
- increasing the intensity of light at work;
- having a predictable schedule of night shifts;
- eliminating sound and light in the bedroom during daytime sleep;
- using caffeine (only during the first part of the shift) to promote alertness at night; or
- possibly using prescription sleeping pills to help daytime sleep on an occasional basis (check with your doctor).

If you think you are getting enough sleep, but still feel sleepy during the day, check with your doctor to be sure your sleepiness is not due to a sleep disorder.

WHERE TO GET MORE INFORMATION

For additional information on sleep and sleep disorders, contact the following offices of the National Heart, Lung, and Blood Institute of the National Institutes of Health:

- National Center on Sleep Disorders Research (NCSDR)

The NCSDR supports research, scientist training, dissemination of health information, and other activities on sleep and sleep disorders. The NCSDR also coordinates sleep research activities with other Federal agencies and with public and nonprofit organizations.

National Center on Sleep Disorders Research
National Institutes of Health
Two Rockledge Centre
Suite 7024
6701 Rockledge Drive,
MSC 7920
Bethesda, MD 20892-7920
(301) 435-0199
(301) 480-3451 (fax)

- National Heart, Lung, and Blood Institute Information Center

The Information Center acquires, analyzes, promotes, maintains, and disseminates programmatic and educational information related to sleep and sleep disorders. Write for a list of available publications or to order additional copies of this fact sheet.

NHLBI Information Center
P.O. Box 30105
Bethesda, MD 20824-0105
(301) 251-1222
(301) 251-1223 (fax)
<http://www.nhlbi.nih.gov/nhlbi/nhlbi.htm>

U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES

Public Health Service
National Institutes of Health
National Heart, Lung, and Blood Institute

NIH Publication No. 97-4071
September 1997